

\* \* \* \* \* STN Columbus \* \* \* \* \*

FILE 'HOME' ENTERED AT 20:34:47 ON 16 DEC 2004

=> e .biotech

THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE

The EXPAND command is used to look at the index in a file which has an index. This file does not have an index.

=> file .biotech

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'MEDLINE' ENTERED AT 20:35:04 ON 16 DEC 2004

FILE 'CAPLUS' ENTERED AT 20:35:04 ON 16 DEC 2004

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'BIOSIS' ENTERED AT 20:35:04 ON 16 DEC 2004

Copyright (c) 2004 The Thomson Corporation.

FILE 'EMBASE' ENTERED AT 20:35:04 ON 16 DEC 2004

COPYRIGHT (C) 2004 Elsevier Inc. All rights reserved.

FILE 'AGRICOLA' ENTERED AT 20:35:04 ON 16 DEC 2004

FILE 'SCISEARCH' ENTERED AT 20:35:04 ON 16 DEC 2004

Copyright (c) 2004 The Thomson Corporation.

=> s monovalent or sodium or potassium or polysaccharide and (alginate)

L1 2966245 MONOVALENT OR SODIUM OR POTASSIUM OR POLYSACCHARIDE AND (ALGINATE)

=> s salt?1 or "sodium chloride"

'?' TRUNCATION SYMBOL NOT VALID WITHIN 'SALT?1'

The truncation symbol ? may be used only at the end of a search term. To specify a variable character within a word use '!', e.g., 'wom!n' to search for both 'woman' and 'women'. Enter "HELP TRUNCATION" at an arrow prompt (=>) for more information.

=> s salt or "sodium chloride"

L2 1256224 SALT OR "SODIUM CHLORIDE"

=> s L1 and L2

L3 476729 L1 AND L2

=> e encapsulated

E1	1	ENCAPSULATEA/BI
E2	1	ENCAPSULATEAD/BI
E3	75832 -->	ENCAPSULATED/BI
E4	1	ENCAPSULATEDC/BI
E5	2	ENCAPSULATEDIN/BI
E6	2	ENCAPSULATEDS/BI
E7	1	ENCAPSULATEED/BI
E8	3	ENCAPSULATER/BI
E9	1628	ENCAPSULATES/BI
E10	1	ENCAPSULATESD/BI
E11	1	ENCAPSULATETHE/BI
E12	1	ENCAPSULATIC/BI

=> s e3  
L4 75832 ENCAPSULATED/BI

=> s e9  
L5 1628 ENCAPSULATES/BI

=> s L3 and L4 or L5  
L6 2481 L3 AND L4 OR L5

=> e probiotic  
E1 1 PROBIOTCIS/BI  
E2 3 PROBIOTECH/BI  
E3 10198 --> PROBIOTIC/BI  
E4 17 PROBIOTICA/BI  
E5 12 PROBIOTICAL/BI  
E6 17 PROBIOTICALLY/BI  
E7 1 PROBIOTICAND/BI  
E8 2 PROBIOTICAS/BI  
E9 1 PROBIOTICBIFIDOBACTERIUM/BI  
E10 1 PROBIOTICDID/BI  
E11 1 PROBIOTICELE/BI  
E12 1 PROBIOTICHE/BI

=> s e3  
L7 10198 PROBIOTIC/BI

=> s L6 and L7  
L8 11 L6 AND L7

=> d ab bib L8 1-11

L8 ANSWER 1 OF 11 MEDLINE on STN  
AB Bifidobacterium cells were **encapsulated** in a mixed gel composed of **alginate**, pectin, and whey proteins. Two kinds of capsules were obtained: gel beads without membranes and gel beads with two membranes formed by the transacylation reaction. In vitro studies were carried out to determine the effects of simulated gastric pH and bile salts on the survival of free and **encapsulated** Bifidobacterium bifidum. The protective effects of gel beads without membranes and gel beads coated with two membranes formed by the transacylation reaction were evaluated. After 1 h in an acidic solution (pH 2.5), the free-cell counts decreased by 4.75 log units, compared with a <1-log decrease for entrapped cells. The free cells did not survive after 2 h of incubation at pH 2.5, while immobilized-cell counts decreased by about 2 log units. After incubation (1 or 3 h) in 2 and 4% bile **salt** solutions, the bifidobacterium mortality level for membrane-free gel beads (4 to 7 log units) was higher than that for free cells (2 to 3 log units). However, counts of bifidobacteria immobilized in membrane-coated gel beads decreased by <2 log units. Cell encapsulation in membrane-coated protein-**polysaccharide** gel beads could be used to increase the survival of healthy **probiotic** bacteria during their transit through the gastrointestinal tract.  
AN 2003547850 MEDLINE  
DN PubMed ID: 14627286  
TI Protection of bifidobacteria **encapsulated** in **polysaccharide**-protein gel beads against gastric juice and bile.  
AU Guerin Daniel; Vuilleumard Jean-Christophe; Subirade Muriel  
CS Centre de Recherche en Sciences et Technologie du Lait STELA, Faculte des Sciences de l'Agriculture et de l'Alimentation, Universite Laval, Quebec, Canada G1K 7P4.  
SO Journal of food protection, (2003 Nov) 66 (11) 2076-84.  
Journal code: 7703944. ISSN: 0362-028X.  
CY United States  
DT Journal; Article; (JOURNAL ARTICLE)

LA English  
FS Priority Journals  
EM 200401  
ED Entered STN: 20031121  
Last Updated on STN: 20040109  
Entered Medline: 20040108

L8 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AB The probiotics, Lactobacillus acidophilus 547, Bifidobacterium bifidum ATCC 1994, and Lactobacillus casei 01, were **encapsulated** into uncoated calcium alginate beads and the same beads were coated with three types of material, chitosan, **sodium** alginate, and poly-L-lysine in combination with alginate. The thickness of the alginate beads increased with the addition of coating materials. No differences were detectable in the bead strength by texture anal. or in the thickness of the beads with different types of coating materials by transmission electron microscopy. The survivability of three probiotics in uncoated beads, coated beads, and as free cells (unencapsulated) was conducted in 0.6% bile **salt** solution and simulated gastric juice (pH 1.55) followed by incubation in simulated intestinal juice with and without 0.6% bile **salt**. Chitosan-coated alginate beads provided the best protection for L. acidophilus and L. casei in all treatments. However, B. bifidum did not survive the acidic conditions of gastric juice even when **encapsulated** in coated beads.

AN 2004:483609 CAPLUS  
TI The influence of coating materials on some properties of alginate beads and survivability of microencapsulated **probiotic** bacteria  
AU Krasaekoopt, Wunwisa; Bhandari, Bhesh; Deeth, Hilton  
CS School of Land and Food Sciences, The University of Queensland, St. Lucia, 4072, Australia  
SO International Dairy Journal (2004), 14(8), 737-743  
CODEN: IDAJE6; ISSN: 0958-6946  
PB Elsevier Science B.V  
DT Journal  
LA English  
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AB An edible matrix composition that has a chewable texture and that contains at least one **encapsulated** component is obtained by admixing at least one plasticizer, and a ground, free-flowing particulate mixture which comprises at least one fat, at least one starch, and at least one sugar which have been mixed and heated without substantially gelatinizing the starch. A chewable texture is obtained rather than a hard, glassy matrix because the starch is substantially ungelatinized. However, a flavorful product is obtained without destroying a heat sensitive encapsulant because the starch is admixed with ingredients comprising fat or oil and sugar and the mixture is heated to develop flavor at high temps. prior to admixing with the heat sensitive encapsulant. The **encapsulated** component may be at least one biol. active component, pharmaceutical component, nutraceutical component, or microorganism. In preferred embodiments, the free-flowing mixture is obtained by grinding cookies. The free-flowing mixture, such as ground cookies and the plasticizer, such as oil and water are mixed with an encapsulant to obtain a formable dough or crumbly mass. The formable dough is shaped or formed into pieces or pellets and dried to a shelf-stable moisture content.

AN 2004:327158 CAPLUS  
DN 140:320335  
TI Encapsulation of components into edible products  
IN Van Lengerich, Bernhard H.  
PA General Mills, Inc., USA  
SO U.S., 14 pp., Cont.-in-part of U.S. Ser. No. 233,443.  
CODEN: USXXAM

DT Patent  
LA English  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6723358	B1	20040420	US 2001-673983	20010201
	WO 9948372	A1	19990930	WO 1999-US4267	19990323
	W: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	RW: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
	NO 2000004784	A	20000925	NO 2000-4784	20000925
PRAI	US 1998-79060P	P	19980323		
	US 1998-103700P	P	19981009		
	US 1998-109696P	P	19981124		
	US 1999-233443	A2	19990120		
	WO 1999-US4267	W	19990323		

RE.CNT 136 THERE ARE 136 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN  
AB Bifidobacterium cells were **encapsulated** in a mixed gel composed of **alginate**, pectin, and whey proteins. Two kinds of capsules were obtained: gel beads without membranes and gel beads with two membranes formed by the transacylation reaction. In vitro studies were carried out to determine the effects of simulated gastric pH and bile salts on the survival of free and **encapsulated** Bifidobacterium bifidum. The protective effects of gel beads without membranes and gel beads coated with two membranes formed by the transacylation reaction were evaluated. After 1 h in an acidic solution (pH 2.5), the free-cell counts decreased by 4.75 log units, compared with a < 1-log decrease for entrapped cells. The free cells did not survive after 2 h of incubation at pH 2.5, while immobilized-cell counts decreased by about 2 log units. After incubation (1 or 3 h) in 2 and 4% bile **salt** solns., the bifidobacterium mortality level for membrane-free gel beads (4 to 7 log units) was higher than that for free cells (2 to 3 log units). However, counts of bifidobacteria immobilized in membrane-coated gel beads decreased by <2 log units. Cell encapsulation in membrane-coated protein-**polysaccharide** gel beads could be used to increase the survival of healthy **probiotic** bacteria during their transit through the gastrointestinal tract.

AN 2003:958928 CAPLUS

DN 140:252345

TI Protection of bifidobacteria **encapsulated** in **polysaccharide**-protein gel beads against gastric juice and bile

AU Guerin, Daniel; Vuilleumard, Jean-Christophe; Subirade, Muriel

CS Centre de Recherche en Sciences et Technologie du Lait STELA, Faculte des Sciences de l'Agriculture et de l'Alimentation, Universite Laval, QC, G1K 7P4, Can.

SO Journal of Food Protection (2003), 66(11), 2076-2084  
CODEN: JFPRDR; ISSN: 0362-028X

PB International Association for Food Protection

DT Journal

LA English

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AB The present invention relates to novel strains capable of producing

conjugated linoleic acid (CLA). The strains include Bifidobacterium breve CBG-C2, Bifidobacterium pseudocatenulatum CBG-C4 and Enterococcus faecium CBG-C5. The strains are excellent in producing CLA and are able to secrete the produced CLA to a medium or to accumulate in the cells. Also, the strains show strong resistance to antibiotics and acids such as stomach acid or bile **salt**. A composition comprising the strain according to the present invention is prepared in the form a capsule comprising the strain according to the present invention and CLA **encapsulated** in a coating material comprising water soluble polysaccharides and may be used in functional foods and medicaments.

AN 2003:837265 CAPLUS

DN 139:322387

TI Conjugated linoleic acid producing Bifidobacteria and Enterococcus strains and their use to manufacture probiotics, food additives and pharmaceuticals

IN Kim, So-Mi; Oh, Deok-Kun; Baek, Dae-Heoun; Sin, Hong-Sig; Park, Si-Ho; Lee, Yu-Jin; Um, Soo-Jong; Rho, Young-Soy; Park, Jong-Sup; Kim, Dong-Myong

PA Chebigen Inc., S. Korea

SO PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003087344	A1	20031023	WO 2003-KR742	20030412
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	KR 2003081180	A	20031017	KR 2003-23164	20030412
PRAI	KR 2002-20057	A	20020412		

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AB A method for delivering a medicament or agent to an individual using a chewing gum-like product, specifically a coated gum-like product is provided. The medicament or agent is present within the coating that surrounds a center comprising a gum base. By chewing the product, the medicament or agent is released from the product. Continuing to chew the product creates a pressure within the buccal cavity forcing the agent or medicament directly into the systemic system of the individual through the oral mucosa contained in the buccal cavity. This greatly enhances the absorption of the drug into the systemic system as well as the bioavailability of the drug within the system. For example, an acetaminophen coated product contained (a) gum base center (1 g), and (b) coating (1 g) made of acetaminophen 80.0 g, **encapsulated** aspartame 20.0 g, aspartame 50.0 g, **salt** flour 2.5 g, dextrose 643.5 g, and flavor 4.0 g.

AN 2003:203183 CAPLUS

DN 138:243278

TI Over-coated chewing gum formulations

IN Ream, Ronald L.; Greenberg, Michael J.; Wokas, William J.; Corriveau, Christine L.

PA Wm. Wrigley Jr., Co., USA

SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. 6,355,265.

CODEN: USXXCO

DT Patent  
LA English  
FAN.CNT 19

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003049208	A1	20030313	US 2001-992122	20011113
	US 6773716	B2	20040810		
	CA 2431856	AA	19980604	CA 1996-2431856	19961127
	WO 2000035296	A1	20000622	WO 1999-US29742	19991214
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6355265	B1	20020312	US 2000-510878	20000223
EP	1347746	A1	20031001	EP 2001-953503	20010717
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	US 2004180007	A1	20040916	US 2003-743609	20031222
PRAI	US 1999-286818	A2	19990406		
	WO 1999-US29742	W	19991214		
	US 2000-510878	A2	20000223		
	CA 1996-2271889	A3	19961127		
	WO 1996-US18977	A2	19961127		
	US 1998-112389P	P	19981215		
	US 1999-308972	A2	19990527		
	US 1999-389211	A2	19990902		
	US 2000-671552	B1	20000927		
	WO 2001-US22360	W	20010717		

RE.CNT 268 THERE ARE 268 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 7 OF 11 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AB The probiotics, *Lactobacillus acidophilus* 547, *Bifidobacterium bifidum* ATCC 1994, and *Lactobacillus casei* 01, were **encapsulated** into uncoated calcium alginate beads and the same beads were coated with three types of material, chitosan, **sodium** alginate, and poly-L-lysine in combination with alginate. The thickness of the alginate beads increased with the addition of coating materials. No differences were detectable in the bead strength by texture analysis or in the thickness of the beads with different types of coating materials by transmission electron microscopy. The survivability of three probiotics in uncoated beads, coated beads, and as free cells (unencapsulated) was conducted in 0.6% bile **salt** solution and simulated gastric juice (pH 1.55) followed by incubation in simulated intestinal juice with and without 0.6% bile **salt**. Chitosan-coated alginate beads provided the best protection for *L. acidophilus* and *L. casei* in all treatments. However, *B. bifidum* did not survive the acidic conditions of gastric juice even when **encapsulated** in coated heads. Copyright 2004 Elsevier Ltd. All rights reserved.

AN 2004:351158 BIOSIS

DN PREV200400352159

TI The influence of coating materials on some properties of alginate beads and survivability of microencapsulated **probiotic** bacteria.

AU Krasaekoopt, Wunwisa; Bhandari, Bhesh [Reprint Author]; Deeth, Hilton  
CS Sch Land and Food Sci, Univ Queensland, St Lucia, Qld, 4072, Australia  
b.bhandari@uq.edu.au

SO International Dairy Journal, (August 2004) Vol. 14, No. 8, pp. 737-743.  
print.

ISSN: 0958-6946.

DT Article  
LA English  
ED Entered STN: 26 Aug 2004  
Last Updated on STN: 26 Aug 2004

L8 ANSWER 8 OF 11 BIOSIS COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AB Bifidobacterium cells were **encapsulated** in a mixed gel composed of **alginate**, pectin, and whey proteins. Two kinds of capsules were obtained: gel beads without membranes and gel beads with two membranes formed by the transacylation reaction. In vitro studies were carried out to determine the effects of simulated gastric pH and bile salts on the survival of free and **encapsulated** Bifidobacterium bifidum. The protective effects of gel beads without membranes and gel beads coated with two membranes formed by the transacylation reaction were evaluated. After 1 h in an acidic solution (pH 2.5), the free-cell counts decreased by 4.75 log units, compared with a <1-log decrease for entrapped cells. The free cells did not survive after 2 h of incubation at pH 2.5, while immobilized-cell counts decreased by about 2 log units. After incubation (1 or 3 h) in 2 and 4% bile **salt** solutions, the bifidobacterium mortality level for membrane-free gel beads (4 to 7 log units) was higher than that for free cells (2 to 3 log units). However, counts of bifidobacteria immobilized in membrane-coated gel beads decreased by <2 log units. Cell encapsulation in membrane-coated protein-**polysaccharide** gel beads could be used to increase the survival of healthy **probiotic** bacteria during their transit through the gastrointestinal tract.

AN 2004:8007 BIOSIS

DN PREV200400008580

TI Protection of bifidobacteria **encapsulated** in **polysaccharide**-protein gel beads against gastric juice and bile.

AU Guerin, Daniel; Vuilleumard, Jean-Christophe [Reprint Author]; Subirade, Muriel

CS Centre de Recherche en Sciences et Technologie du Lait STELA, Faculte des Sciences de l'Agriculture et de l'Alimentation, Universite Laval, Sainte-Foy, PQ, G1K 7P4, Canada  
jean-christophe.vuilleumard@al.n.ulaval.ca

SO Journal of Food Protection, (November 2003) Vol. 66, No. 11, pp. 2076-2084. print.  
ISSN: 0362-028X (ISSN print).

DT Article  
LA English  
ED Entered STN: 17 Dec 2003  
Last Updated on STN: 17 Dec 2003

L8 ANSWER 9 OF 11 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN

AB A modified method using calcium alginate for the microencapsulation of **probiotic** bacteria is reported in this study. Incorporation of Hi-Maize starch (a prebiotic) improved encapsulation of viable bacteria as compared to when the bacteria were **encapsulated** without the starch. Inclusion of glycerol (a cryo-protectant) with alginate mix increased the survival of bacteria when frozen at - 20°C. The acidification kinetics of **encapsulated** bacteria showed that the rate of acid produced was lower than that of free cultures. The **encapsulated** bacteria, however, did not demonstrate a significant increase in survival when subjected to in vitro high acid and bile **salt** conditions. A preliminary study was carried out in order to monitor the effects of encapsulation on the survival of Lactobacillus acidophilus and Bifidobacterium spp. in yoghurt over a period of 8 weeks. This study showed that the survival of **encapsulated** cultures of L. acidophilus and Bifidobacterium spp. showed a decline in viable count of about 0.5log over a period of 8 weeks while there was a decline of

about 1log in cultures which were incorporated as free cells in yoghurt. The encapsulation method used in this study did not result in uniform bead size, and hence additional experiments need to be designed using uniform bead size in order to assess the role of different encapsulation parameters, such as bead size and alginate concentration, in providing protection to the bacteria. (C) 2000 Elsevier Science B.V.

AN 2000416452 EMBASE

TI Encapsulation of **probiotic** bacteria with alginate-starch and evaluation of survival in simulated gastrointestinal conditions and in yoghurt.

AU Sultana K.; Godward G.; Reynolds N.; Arumugaswamy R.; Peiris P.; Kailasapathy K.

CS K. Kailasapathy, Centre for Advanced Food Research, University of Western Sydney, Richmond, NSW 2753, Australia. k.kailasapathy@uws.edu.au

SO International Journal of Food Microbiology, (5 Dec 2000) 62/1-2 (47-55). Refs: 25

ISSN: 0168-1605 CODEN: IJFMDD

PUI S 0168-1605(00)00380-9

CY Netherlands

DT Journal; Article

FS 004 Microbiology

LA English

SL English

L8 ANSWER 10 OF 11 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AB The probiotics, *Lactobacillus acidophilus* 547, *Bifidobacterium bifidum* ATCC 1994, and *Lactobacillus casei* 01, were **encapsulated** into uncoated calcium alginate beads and the same beads were coated with three types of material, chitosan, **sodium** alginate, and poly-L-lysine in combination with alginate. The thickness of the alginate beads increased with the addition of coating materials. No differences were detectable in the bead strength by texture analysis or in the thickness of the beads with different types of coating materials by transmission electron microscopy. The survivability of three probiotics in uncoated beads, coated beads, and as free cells (unencapsulated) was conducted in 0.6% bile **salt** solution and simulated gastric juice (pH 1.55) followed by incubation in simulated intestinal juice with and without 0.6% bile **salt**. Chitosan-coated alginate beads provided the best protection for *L. acidophilus* and *L. casei* in all treatments. However, *B. bifidum* did not survive the acidic conditions of gastric juice even when **encapsulated** in coated heads. (C) 2004 Elsevier Ltd. All rights reserved.

AN 2004:622077 SCISEARCH

GA The Genuine Article (R) Number: 833WP

TI The influence of coating materials on some properties of alginate beads and survivability of microencapsulated **probiotic** bacteria

AU Krasaekoopt W; Bhandari B (Reprint); Deeth H

CS Univ Queensland, Sch Land & Food Sci, St Lucia, Qld 4072, Australia (Reprint)

CYA Australia

SO INTERNATIONAL DAIRY JOURNAL, (AUG 2004) Vol. 14, No. 8, pp. 737-743. Publisher: ELSEVIER SCI LTD, THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, OXON, ENGLAND. ISSN: 0958-6946.

DT Article; Journal

LA English

REC Reference Count: 26

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

L8 ANSWER 11 OF 11 SCISEARCH COPYRIGHT (c) 2004 The Thomson Corporation. on STN

AB *Bifidobacterium* cells were **encapsulated** in a mixed gel composed of **alginate**, pectin, and whey proteins. Two kinds of

capsules were obtained: gel beads without membranes and gel beads with two membranes formed by the transacylation reaction. In vitro studies were carried out to determine the effects of simulated gastric pH and bile salts on the survival of free and **encapsulated** Bifidobacterium bifidum. The protective effects of gel beads without membranes and gel beads coated with two membranes formed by the transacylation reaction were evaluated. After 1 h in an acidic solution (pH 2.5), the free-cell counts decreased by 4.75 log units, compared with a <1-log decrease for entrapped cells. The free cells did not survive after 2 h of incubation at pH 2.5, while immobilized-cell counts decreased by about 2 log units. After incubation (1 or 3 h) in 2 and 4% bile **salt** solutions, the bifidobacterium mortality level for membrane-free gel beads (4 to 7 log units) was higher than that for free cells (2 to 3 log units). However, counts of bifidobacteria immobilized in membrane-coated gel beads decreased by <2 log units. Cell encapsulation in membrane-coated protein-**polysaccharide** gel beads could be used to increase the survival of healthy **probiotic** bacteria during their transit through the gastrointestinal tract.

AN 2003:1004011 SCISEARCH  
GA The Genuine Article (R) Number: 741YX  
TI Protection of bifidobacteria **encapsulated** in  
**polysaccharide**-protein gel beads against gastric juice and bile  
AU Guerin D; Vuilleumard J C (Reprint); Subirade M  
CS Univ Laval, Fac Sci Agr & Alimentat, Ctr Rech Sci & Technol, Lait STELA,  
Laval, PQ G1K 7P4, Canada (Reprint)  
CYA Canada  
SO JOURNAL OF FOOD PROTECTION, (NOV 2003) Vol. 66, No. 11, pp. 2076-2084.  
Publisher: INT ASSOC FOOD PROTECTION, 6200 AURORA AVE SUITE 200W, DES  
MOINES, IA 50322-2863 USA.  
ISSN: 0362-028X.  
DT Article; Journal  
LA English  
REC Reference Count: 54  
\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

=> d his

(FILE 'HOME' ENTERED AT 20:34:47 ON 16 DEC 2004)

FILE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, AGRICOLA, SCISEARCH' ENTERED AT  
20:35:04 ON 16 DEC 2004

L1 2966245 S MONOVALENT OR SODIUM OR POTASSIUM OR POLYSACCHARIDE AND (ALGI  
L2 1256224 S SALT OR "SODIUM CHLORIDE"  
L3 476729 S L1 AND L2  
E ENCAPSULATED  
L4 75832 S E3  
L5 1628 S E9  
L6 2481 S L3 AND L4 OR L5  
E PROBIOTIC  
L7 10198 S E3  
L8 11 S L6 AND L7

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L10	2	"5389532".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 18:59
L11	2	"6365148".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:05
L12	22	"4956295"	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:12
L13	0	"4956295.pn."	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:05
L14	2	"4927763".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:14
L15	786057	alginate monvalent sodium postassium polysaccharide\$1 <i>1</i>	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:15
L16	317778	capsule\$2 encapsulat\$2	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:16
L17	1200793	salt\$ "sodium chloride" <i>2</i>	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:19
L18	491045	L15 and L17	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:19
L19	4152853	survival resistance block combat fight	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:21
L20	874	simulated NEAR gastric	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:21
L21	116948	L18 and L16	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:21

L22	408	L19 and L20	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:22
L23	284	L21 and L22	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:22
L24	220866	bacteria	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:23
L25	869	probiotic and L24	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:23
L26	6	L23 and L25	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:33
L27	11272	lactobacillus bifidobacterium	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:33
L28	9	"L35" and L27	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:37
L29	3653674	extend increase enhance lengthen prolong	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:39
L30	52316	shelf Near1 life	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:39
L31	30813	L29 and L30	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:39
L32	110	L25 and L31	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:59
L33	102025	"424"/\$.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 19:59

L34	65	L32 and L33	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 20:00
L35	359	L25 and L33	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 20:00
L36	0	424/184.1.ccls and L25	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 20:00
L37	2	424/184.1.ccls. and L32	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 20:02
L38	7	L34 and alginate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 20:02
L39	31	L35 and alginate	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/12/16 20:02